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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/565,076

01/18/2006

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8048-1138

3920

466 7590 05/12/2010

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EXAMINER

PENDLETON, DIONNE

ART UNIT

PAPER NUMBER

2627

NOTIFICATION DATE

DELIVERY MODE

05/12/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DocketingDept@young-thompson.com

DETAILED ACTION

Priority

1. The disclosure of the invention in the parent application (***Provisional application No. 60/469,005***) provides sufficient support for the features in the later-filed application (***Park-US Pub. No. 2005/0025003***), as are now relied upon as prior art by the Examiner and discussed in the detailed action, below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 16, 17, 19, 20 and 22-26** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Park-US Pub. No. 2005/0025003 (as supported by Provisional application No. 60/469,005)** in view of **Hwang et al. - US 2008/0101181 (as supported by Provisional application No. 60/472,114)** and further in view of **Ito - US Patent No. 2003/0137909**.

Regarding claim 16,

Park teaches a write-once-type recording medium (**page 1**) comprising:

a data area to record therein the record data (**page 4 discloses recording in a replacement cluster instead of a defective cluster. Said "defective cluster" is interpreted as evidence of a data area in the disc of Park**);

a control information recording area, which includes a definite defect management area to record therein defect management information of said data area, to record therein information for controlling at least one of operations of recording and reading in said data area (**paragraph 1 of page 1, discloses updating a "DMS"**);

and a shared area (**"OSA1", in page 4**) to record therein evacuation data which is record data to be recorded at a position of a defect in said data area (**page 4 discloses that a defective clusters is recorded as a replacement cluster**) and to temporarily record therein the defect management information of said data area (**page 4 discloses recording the address of a defective cluster in a user control block of the replacement cluster**), the evacuation data being recorded with one predetermined point which exists in said shared area as a start point, the defect management information being recorded with another predetermined point which exists at a different point from the one point as a start point, in said shared area (**an "Access block" is distinguished from a replacement cluster of the Park disclosure. Since the "Access block" includes management information such as PSNs, each "Access block" (see "address unit" or "user control block" thereof) is interpreted as having a starting point which is different from the starting point of the replacement data of the replacement cluster**), wherein the defect management information includes (i) an evacuation source address which is an address of the

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position of the defect in the data area (**see “PSN of defective cluster”**) and (ii) an evacuation destination address which is an address of a recording position of the evacuation data (**see “PSN of replacement cluster”**).

Park fails to expressly teach that the disc structure is such that the shared area is disposed between said control information recording area and said data area.

HWANG teaches that a write-one recording medium may be structured such that the shared area (**“SPARE AREA 2” in figures 4 and 6**) is disposed between said control information recording area (**“DMA3” or “DMA4” in figures 4 and 6**) and said data area (**“USER DATA AREA” in figures 4 and 6**).

It would have been obvious for one of ordinary skill in the art at the time of the invention to provide a plurality of definite defect management areas, wherein at least one DMA is located at each opposing end of the disc (see, HWANG). Therefore, when recently updated defect management information is recorded in the multiple DMA locations of the disc, the DMA data is better prevented from becoming unusable due to disc defects.

Park, modified by Hwang, fails to teach that the defect management area further includes a start and end address of the data area, and a size of at least one shared area.

ITO teaches, in figure 5, that the defect management area (12) of a disc may include a disc definition structure (20). Ito further teaches that the disc definition structure may include information comprising the size of the shared area, as well as size

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and address information pertaining to the user data area (see paragraphs [0079], [0102], Figure 7 and Figure 13).

It would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate further data into the DMA of Park, said further data pertaining to the size of the shared area, as well as size and address information related to the user data area, for the purpose of better ensuring the reliability of data detection.

Regarding claim 17,

Park teaches that the evacuation data is continuously recorded with the one point as the start point and the defect management information is continuously recorded with the another point as the start point, in the shared area **(page 4 teaches that the evacuation data is recorded in a “replacement cluster”, while the defect management information are recorded in “Access blocks” of respective clusters. The repeated recordation of replacement clusters and “Access blocks” when a defective cluster is determined, is interpreted as corresponding to “continuously recorded” as claimed broadly claimed).**

Regarding claim 19,

Park teaches that the evacuation data and defect management information are recorded, repeatedly, a plurality of times, in said shared area **(page 4 discloses that each replacement cluster includes an “access block”, which is interpreted as teachings that evacuation data and defect management information are repeatedly recorded for each respective defect).**

Regarding claims 20 and 23,

Park teaches a recording/reproducing apparatus for recording/reproducing record data onto/from a write-once-type recording medium **(page 1)** comprising:

(i) a data area to record therein the record data **(page 4 discloses recording in a replacement cluster instead of a defective cluster. Said "defective cluster" is interpreted as evidence of a data area in the disc of Park);**

(ii) a control information recording area, which includes a definite defect management area to record therein defect management information of said data area, to record therein information for controlling at least one of operations of recording and reading in said data area **(paragraph 1 of page 1, discloses updating a "DMS");**

and (iii) a shared area **("OSA1", in page 4)** to record therein evacuation data which is record data to be recorded at a position of a defect in said data area **(page 4 discloses that a defective clusters is recorded as a replacement cluster)** and to temporarily record therein the defect management information of said data area **(page 4 discloses recording the address of a defective cluster in a user control block of the replacement cluster)**, wherein the defect management information includes (i) an evacuation source address which is an address of the position of the defect in the data area **(see "PSN of defective cluster")** and (ii) an evacuation destination address which is an address of a recording position of the evacuation data **(see "PSN of replacement cluster")**.

Park fails to expressly teach that the disc structure is such that the shared area is disposed between said control information recording area and said data area. Park also fails to expressly disclose a recording/reproducing part of a disc drive apparatus, as claimed.

HWANG teaches that a write-one recording medium may be structured such that the shared area (**“SPARE AREA 2” in figures 4 and 6**) is disposed between said control information recording area (**“DMA3” or “DMA4” in figures 4 and 6**) and said data area (**“USER DATA AREA” in figures 4 and 6**);

and a recording/reproducing apparatus comprising:

a first recording device for recording the record data into said data area (**parts and elements operating to perform said function are illustrated in figure 9**);

and a second recording device for recording the evacuation data and the defect management information into said shared area (**parts and elements operating to perform said function are illustrated in figure 9**), said second recording device recording the evacuation data being recorded with one predetermined point which exists in said shared area as a start point, the defect management information being recorded with another predetermined point which exists at a different point from the one point as a start point, in said shared area (**an “Access block” is distinguished from a replacement cluster of the Park disclosure. Since the “Access block” includes management information such as PSNs, each “Access block” (see “address unit” or “user control block” thereof) is interpreted as having a starting point which is**

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different from the starting point of the replacement data of the replacement cluster),

a reading device for reading the defect management information recorded in said shared area **(parts and elements operating to perform said function are illustrated in figure 9)**; and

a reproducing device for reproducing the record data recorded in said data area or the evacuation data recorded in said spare area, on the basis of the defect management information **(parts and elements operating to perform said function are illustrated in figure 9) .**

It would have been obvious for one of ordinary skill in the art at the time of the invention to provide a plurality of definite defect management areas, wherein at least one DMA is located at each opposing end of the disc (see, HWANG). Therefore, when recently updated defect management information is recorded in the multiple DMA locations of the disc, the DMA data is better prevented from becoming unusable due to disc defects.

Park, modified by Hwang, fails to teach that the defect management area further includes a start and end address of the data area, and a size of at least one shared area.

ITO teaches, in figure 5, that the defect management area (12) of a disc may include a disc definition structure (20). Ito further teaches that the disc definition structure may include information comprising the size of the shared area, as well as size

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and address information pertaining to the user data area (see paragraphs [0079], [0102], Figure 7 and Figure 13).

It would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate further data into the DMA of Park, said further data pertaining to the size of the shared area, as well as size and address information related to the user data area, for the purpose of better ensuring the reliability of data detection.

Regarding claims 22 and 24,

Park teaches a recording/reproducing method of recording/reproducing record data onto/from a write-once-type recording medium **(page 1)** comprising:

(i) a data area to record therein the record data **(page 4 discloses recording in a replacement cluster instead of a defective cluster. Said "defective cluster" is interpreted as evidence of a data area in the disc of Park);**

(ii) a control information recording area, which includes a definite defect management area to record therein defect management information of said data area, to record therein information for controlling at least one of operations of recording and reading in said data area **(paragraph 1 of page 1, discloses updating a "DMS");**

and (iii) a shared area **("OSA1", in page 4)** to record therein evacuation data which is record data to be recorded at a position of a defect in said data area **(page 4 discloses that a defective clusters is recorded as a replacement cluster)** and to temporarily record therein the defect management information of said data area **(page 4**

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discloses recording the address of a defective cluster in a user control block of the replacement cluster), wherein the defect management information includes (i) an evacuation source address which is an address of the position of the defect in the data area (**see “PSN of defective cluster”**) and (ii) an evacuation destination address which is an address of a recording position of the evacuation data (**see “PSN of replacement cluster”**).

Park fails to expressly teach that the disc structure is such that the shared area is disposed between said control information recording area and said data area. Park also fails to expressly disclose a recording/reproducing method, as claimed.

HWANG teaches that a write-one recording medium may be structured such that the shared area (**“SPARE AREA 2” in figures 4 and 6**) is disposed between said control information recording area (**“DMA3” or “DMA4” in figures 4 and 6**) and said data area (**“USER DATA AREA” in figures 4 and 6**);

a recording/reproducing method comprising:

a first recording/reading process of recording/reading the record data into/from said data area (**parts and elements operating to perform said function are illustrated in figure 9**);

a reproducing process and a reproducing process of reproducing the record data recorded in said data area or the evacuation data recorded in said spare area, on the basis of the read defect management information (**the elements of figure 9 operate to execute the process**);

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a second recording process of recording the evacuation data and the defect management information into said shared area **(parts and elements operating to perform said function are illustrated in figure 9)**, said second recording process recording the evacuation data with one predetermined point which exists in said shared area as a start point, said second recording process recording the defect management information with another predetermined point which exists at a different point from the one point as a start point, in said shared area **(an “Access block” is distinguished from a replacement cluster of the Park disclosure. Since the “Access block” includes management information such as PSNs, each “Access block” (see “address unit” or “user control block” thereof) is interpreted as having a starting point which is different from the starting point of the replacement data of the replacement cluster).**

It would have been obvious for one of ordinary skill in the art at the time of the invention to provide a plurality of definite defect management areas, wherein at least one DMA is located at each opposing end of the disc (see, HWANG). Therefore, when recently updated defect management information is recorded in the multiple DMA locations of the disc, the DMA data is better prevented from becoming unusable due to disc defects.

Park, modified by Hwang, fails to teach that the defect management area further includes a start and end address of the data area, and a size of at least one shared area.

ITO teaches, in figure 5, that the defect management area (12) of a disc may include a disc definition structure (20). Ito further teaches that the disc definition structure may include information comprising the size of the shared area, as well as size and address information pertaining to the user data area (see paragraphs [0079], [0102], Figure 7 and Figure 13).

It would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate further data into the DMA of Park, said further data pertaining to the size of the shared area, as well as size and address information related to the user data area, for the purpose of better ensuring the reliability of data detection.

Regarding claims 25 and 26.

The combined disclosures of Park and Hwang teach a computer program product for recording/reproduction control in a computer-readable medium for tangibly embodying a program of instructions executable by a computer provided for a recording/reproduction apparatus, said program making the computer function as at least a first portion of a recording/reading device and a second recording/reading device **(see parts and elements of figure 9 of Hwang)**, said apparatus comprising:

a data area to record therein the record data **(page 4 discloses recording in a replacement cluster instead of a defective cluster. Said "defective cluster" is interpreted as evidence of a data area in the disc of Park)**;

a control information recording area, which includes a definite defect management area to record therein defect management information of said data area,

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to record therein information for controlling at least one of operations of recording and reading in said data area (**paragraph 1 of page 1, discloses updating a “DMS”**);

and a shared area (**“OSA1”, in page 4**) to record therein evacuation data which is record data to be recorded at a position of a defect in said data area (**page 4 discloses that a defective clusters is recorded as a replacement cluster**) and to temporarily record therein the defect management information of said data area (**page 4 discloses recording the address of a defective cluster in a user control block of the replacement cluster**), the evacuation data being recorded with one predetermined point which exists in said shared area as a start point, the defect management information being recorded with another predetermined point which exists at a different point from the one point as a start point, in said shared area (**an “Access block” is distinguished from a replacement cluster of the Park disclosure. Since the “Access block” includes management information such as PSNs, each “Access block” (see “address unit” or “user control block” thereof) is interpreted as having a starting point which is different from the starting point of the replacement data of the replacement cluster**), wherein the defect management information includes (i) an evacuation source address which is an address of the position of the defect in the data area (**see “PSN of defective cluster”**) and (ii) an evacuation destination address which is an address of a recording position of the evacuation data (**see “PSN of replacement cluster”**).

Park fails to expressly teach that the disc structure is such that the shared area is disposed between said control information recording area and said data area. Park also fails to expressly disclose a recording/reproducing apparatus, as claimed.

HWANG teaches that a write-one recording medium may be structured such that the shared area (**“SPARE AREA 2” in figures 4 and 6**) is disposed between said control information recording area (**“DMA3” or “DMA4” in figures 4 and 6**) and said data area (**“USER DATA AREA” in figures 4 and 6**);

and a recording/reproducing apparatus comprising:

a first recording device for recording the record data into said data area (**parts and elements operating to perform said function are illustrated in figure 9**);

and a second recording device for recording the evacuation data and the defect management information into said shared area (**parts and elements operating to perform said function are illustrated in figure 9**), said second recording device recording the evacuation data being recorded with one predetermined point which exists in said shared area as a start point, the defect management information being recorded with another predetermined point which exists at a different point from the one point as a start point, in said shared area (**an “Access block” is distinguished from a replacement cluster of the Park disclosure. Since the “Access block” includes management information such as PSNs, each “Access block” (see “address unit” or “user control block” thereof) is interpreted as having a starting point which is**

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different from the starting point of the replacement data of the replacement cluster),

a reading device for reading the defect management information recorded in said shared area **(parts and elements operating to perform said function are illustrated in figure 9)**; and

a reproducing device for reproducing the record data recorded in said data area or the evacuation data recorded in said spare area, on the basis of the defect management information **(parts and elements operating to perform said function are illustrated in figure 9) .**

It would have been obvious for one of ordinary skill in the art at the time of the invention to provide a plurality of definite defect management areas, wherein at least one DMA is located at each opposing end of the disc (see, HWANG). Therefore, when recently updated defect management information is recorded in the multiple DMA locations of the disc, the DMA data is better prevented from becoming unusable due to disc defects.

Park, modified by Hwang, fails to teach that the defect management area further includes a start and end address of the data area, and a size of at least one shared area.

ITO teaches, in figure 5, that the defect management area (12) of a disc may include a disc definition structure (20). Ito further teaches that the disc definition structure may include information comprising the size of the shared area, as well as size

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and address information pertaining to the user data area (see paragraphs [0079], [0102], Figure 7 and Figure 13).

It would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate further data into the DMA of Park, said further data pertaining to the size of the shared area, as well as size and address information related to the user data area, for the purpose of better ensuring the reliability of data detection.

Response to Arguments

3. Applicant's arguments with respect to claims rejected in the Official Action mailed on 2/1/2010, have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIONNE H. PENDLETON whose telephone number is (571)272-7497. The examiner can normally be reached on 10:30-7:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dionne H Pendleton/
Examiner, Art Unit 2627

/Wayne Young/
Supervisory Patent Examiner, Art Unit 2627